

FIG. 1

- 1 OBJECT
- 2 X-RAY TUBE
- 3 DIAPHRAGM
- 3a, 3b SHIELDING BODY
- 4 DIAPHRAGM VARYING UNIT
- 6 IMAGE PROCESSING UNIT
- 61 STATISTICAL DATA PROCESSING UNIT
- 62 LINE NOISE CORRECTION UNIT
- 7 IMAGE DISPLAY UNIT
- 8 ARM
- 9 X-RAY GENERATION UNIT
- 10 OPERATION UNIT
- 11 CONTROL UNIT

FIG. 2

X-RAY

- 3 DIAPHRAGM
- OPENING
- 52, 53 SHIELDED PORTION
- 51 EFFECTIVE VISUAL FIELD

FIG. 3

STEP 31: SET X-RAY CONDITION (FLUOROSCOPY) AND DIAPHRAGM
POSITION

STEP 32: IRRADIATE OBJECT WITH X-RAYS

STEP 33: DETECT X-RAYS PASSED THROUGH OBJECT

STEP 34: PERFORM STATISTICAL PROCESSING ON DATA OF SHIELDED
PORTION

STEP 35: PERFORM LINE NOISE CORRECTION PROCESSING ON
FLUOROSCOPIC IMAGE

STEP 36: DISPLAY FLUOROSCOPIC IMAGE

FIG. 4

6 IMAGE PROCESSING UNIT
61 STATISTICAL DATA PROCESSING UNIT
62 LINE NOISE CORRECTION UNIT
63 CORRECTION EXECUTION SWITCHING UNIT
7 IMAGE DISPLAY UNIT
10 OPERATION UNIT
11 CONTROL UNIT

FIG. 5

STEP 51: SET X-RAY CONDITION (ARBITRARY) AND DIAPHRAGM
POSITION

STEP 52: IRRADIATE OBJECT WITH X-RAYS

STEP 53: DETECT X-RAYS PASSED THROUGH OBJECT

STEP 54: X-RAY CONDITION = FLUOROSCOPY?

STEP 55: PERFORM STATISTICAL PROCESSING ON DATA OF SHIELDED
PORTION

STEP 56: PERFORM LINE NOISE CORRECTION PROCESSING ON
FLUOROSCOPIC IMAGE

STEP 57: DISPLAY X-RAY IMAGE

FIG. 6

6 IMAGE PROCESSING UNIT
61 STATISTICAL DATA PROCESSING UNIT
62 LINE NOISE CORRECTION UNIT
64 SCATTERED RAY ELIMINATION PROCESSING UNIT
7 IMAGE DISPLAY UNIT
10 OPERATION UNIT
11 CONTROL UNIT

FIG. 7

STEP 71: SET X-RAY CONDITION (FLUOROSCOPY) AND DIAPHRAGM
POSITION

STEP 72: IRRADIATE OBJECT WITH X-RAYS IN ACCORDANCE WITH X-RAY
CONDITION (FLUOROSCOPY) AT SET DIAPHRAGM POSITION

STEP 73: DETECT X-RAYS PASSED THROUGH OBJECT

STEP 74: SCATTERED X-RAY ELIMINATION?

STEP 75: ELIMINATE SCATTERED X-RAY PORTION FROM SHIELDED
PORTION

STEP 76: PERFORM STATISTICAL PROCESSING ON DATA OF SHIELDED
PORTION

STEP 77: PERFORM LINE NOISE CORRECTION PROCESSING ON
FLUOROSCOPIC IMAGE

STEP 78: DISPLAY X-RAY IMAGE

FIG. 8

- 1 OBJECT
- 2 X-RAY TUBE
- 3 DIAPHRAGM
- 3a,3b SHIELDING BODY
- 4 DIAPHRAGM VARYING UNIT
- 6 IMAGE PROCESSING UNIT
- 61 STATISTICAL DATA PROCESSING UNIT
- 62 LINE NOISE CORRECTION UNIT
- 7 IMAGE DISPLAY UNIT
- 8 ARM
- 9 X-RAY GENERATION UNIT
- 10 OPERATION UNIT
- 11 CONTROL UNIT
- 12 DIAPHRAGM

FIG. 9

STEP 91: SET X-RAY CONDITION (RADIOGRAPHY) AND DIAPHRAGM POSITION OF FIRST DIAPHRAGM

STEP 92: IRRADIATE OBJECT TO BE EXAMINED WITH X-RAYS IN ACCORDANCE WITH X-RAY CONDITION (RADIOGRAPHY) AT SET DIAPHRAGM POSITION

STEP 93: DETECT X-RAYS PASSED THROUGH OBJECT TO BE EXAMINED

STEP 94: DETECT SHIELDED PORTION DATA OF FIRST DIAPHRAGM

STEP 95: IDENTIFY SCATTERED X-RAY PORTION

STEP 96: INSERT SECOND DIAPHRAGM INTO SCATTERED X-RAY PORTION

STEP 97: PERFORM STATISTICAL PROCESSING ON DATA OF SHIELDED PORTION

STEP 98: PERFORM LINE NOISE CORRECTION PROCESSING ON FLUOROSCOPIC IMAGE

STEP 99: DISPLAY X-RAY IMAGE

FIG. 1

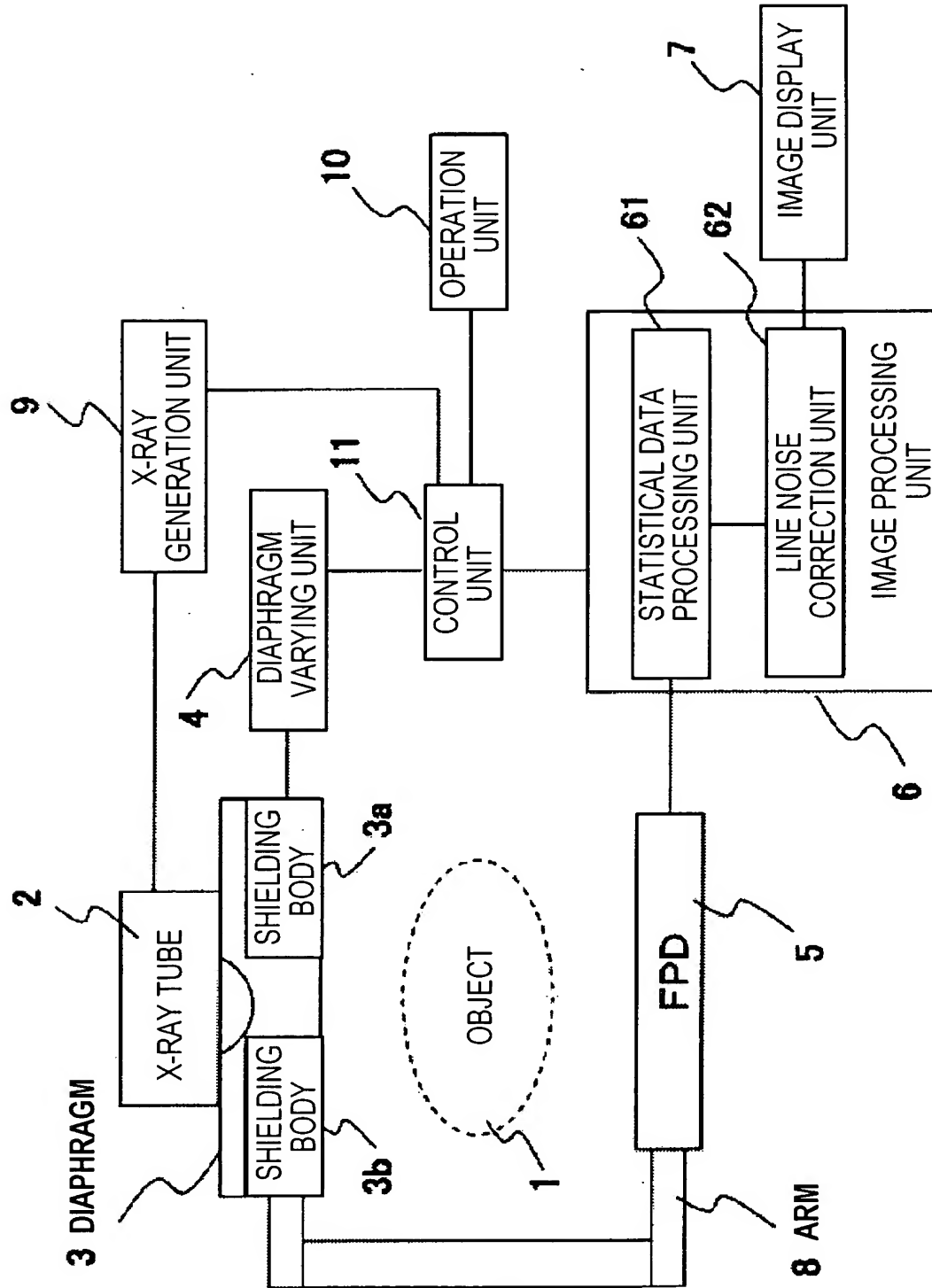


FIG. 2

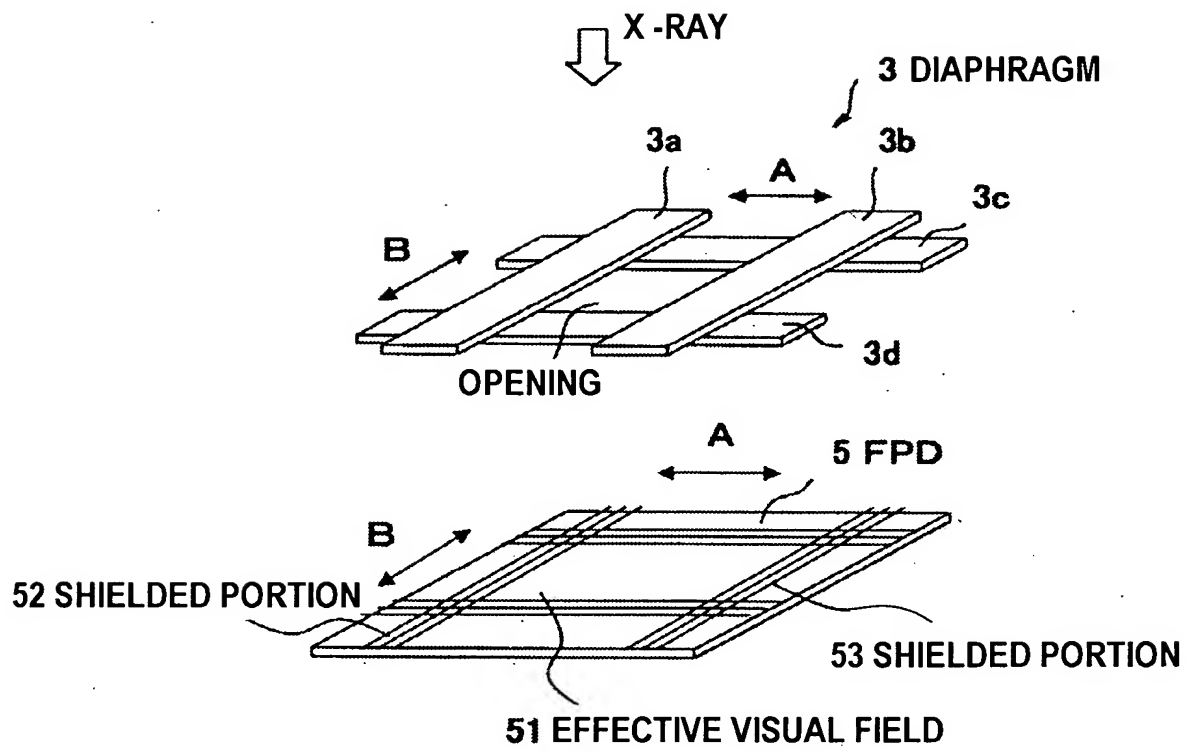


FIG. 3

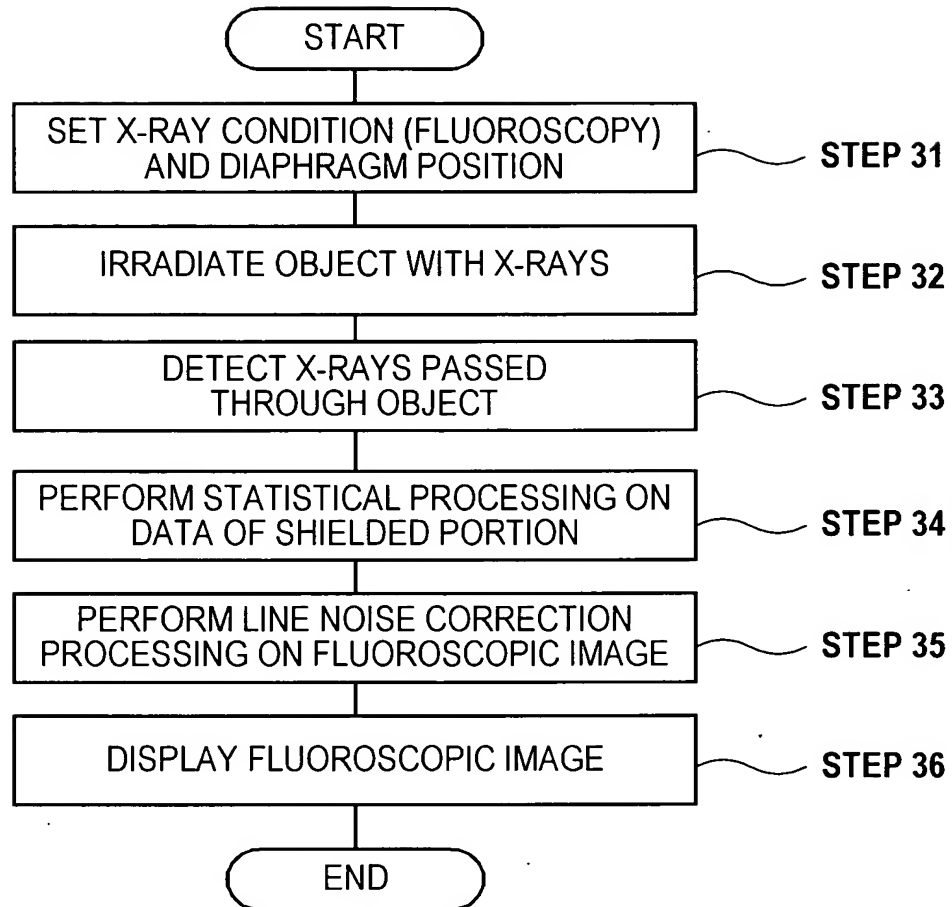


FIG. 4

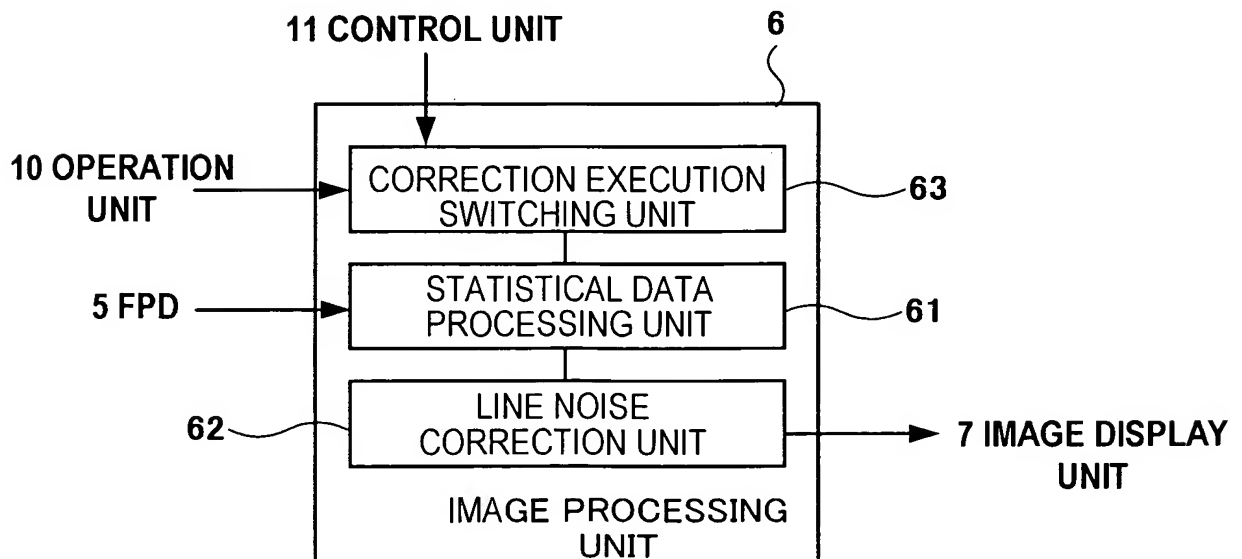


FIG. 5

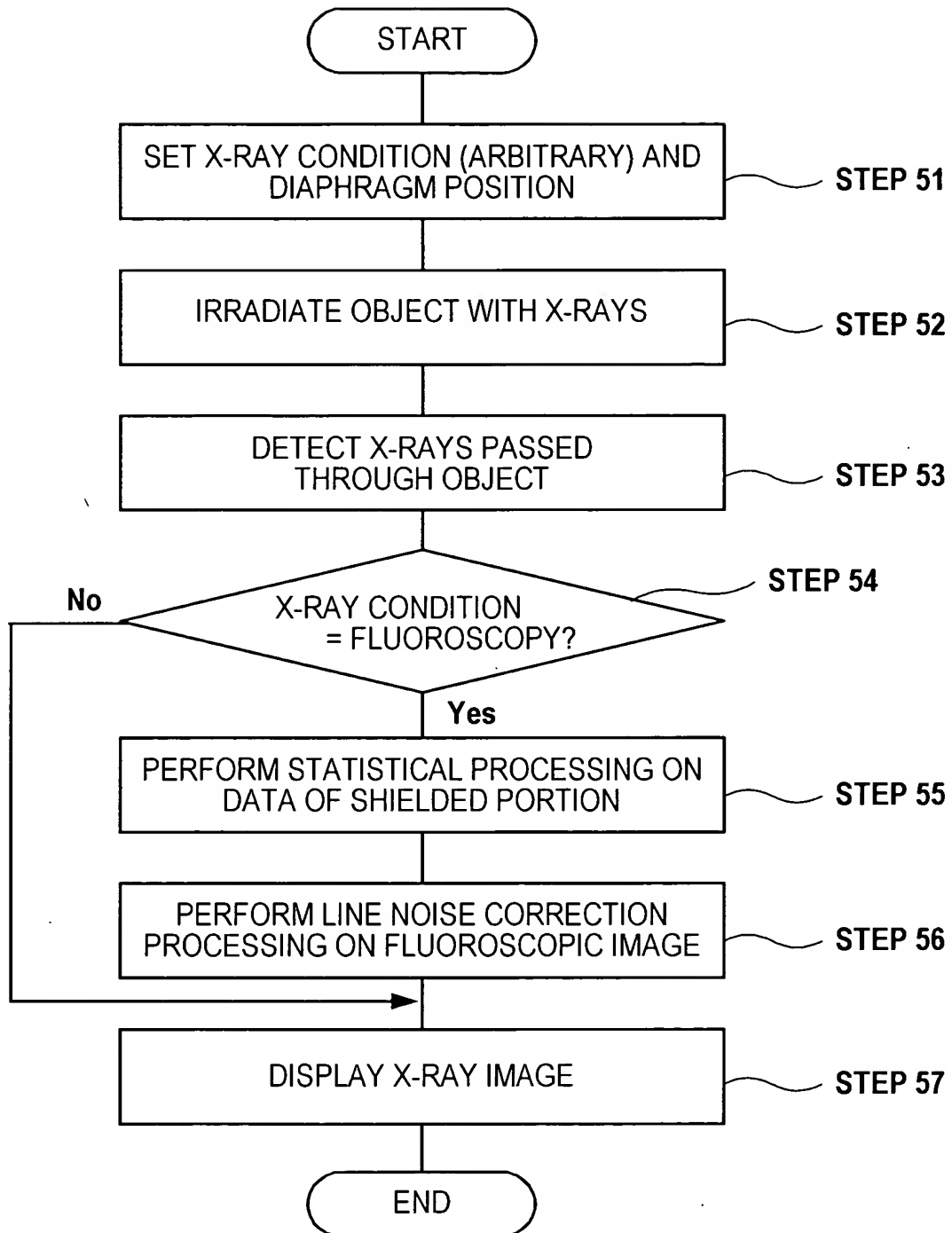


FIG. 6

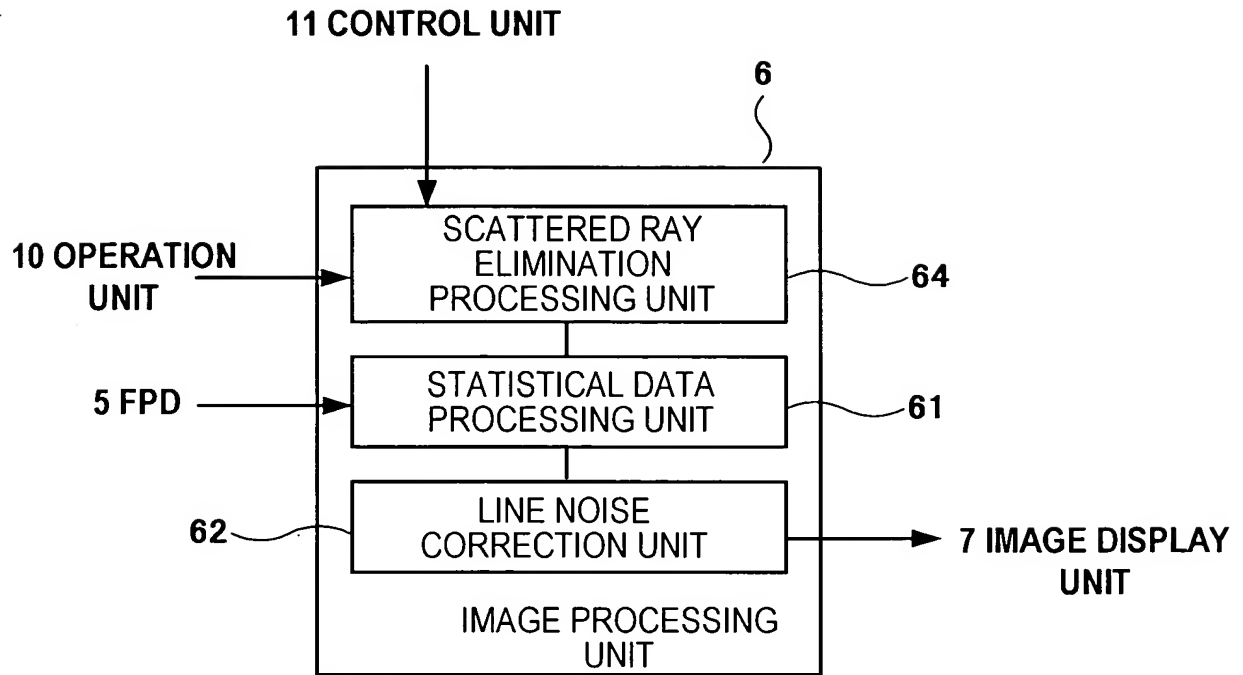


FIG. 7

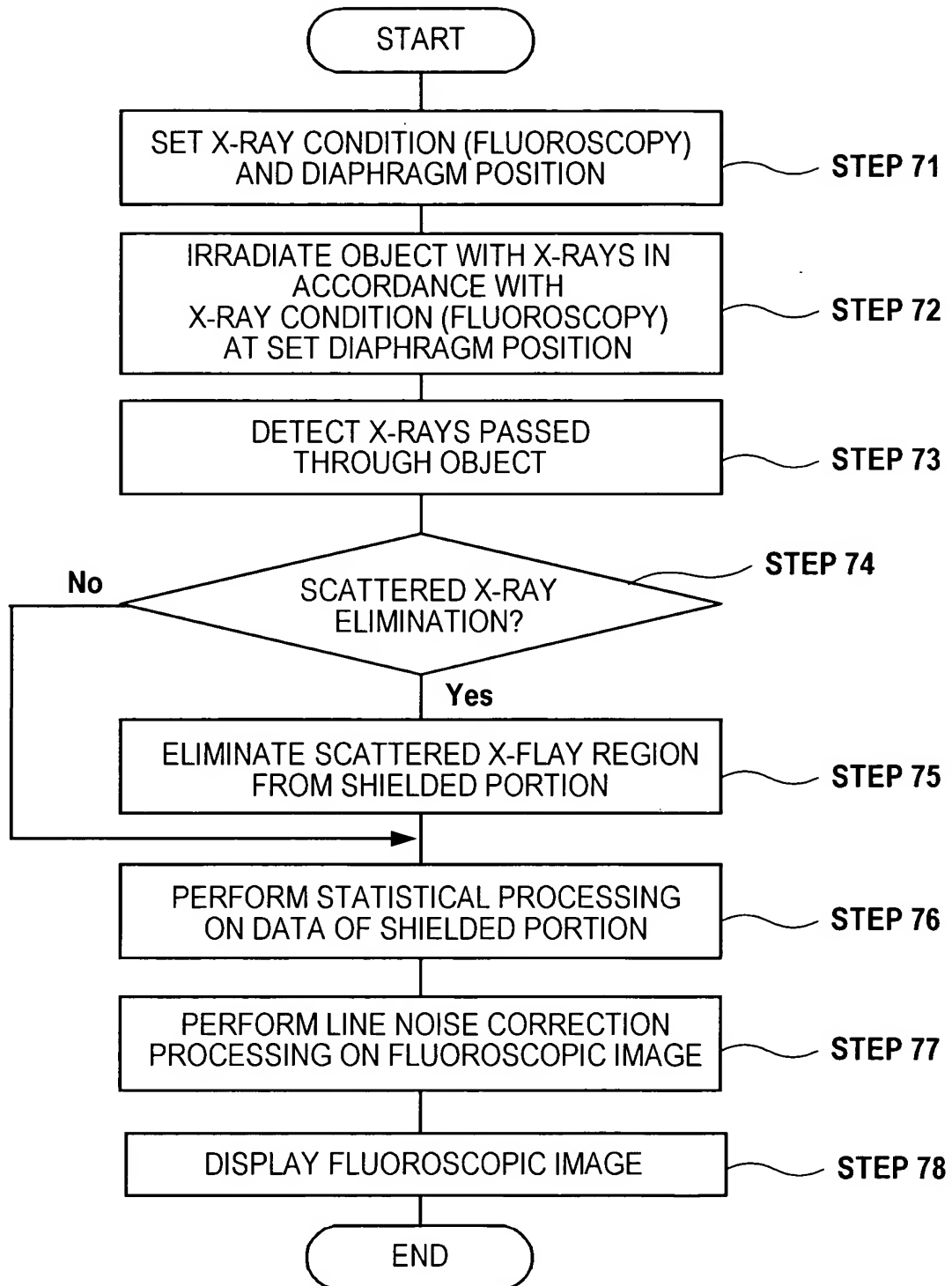


FIG. 8

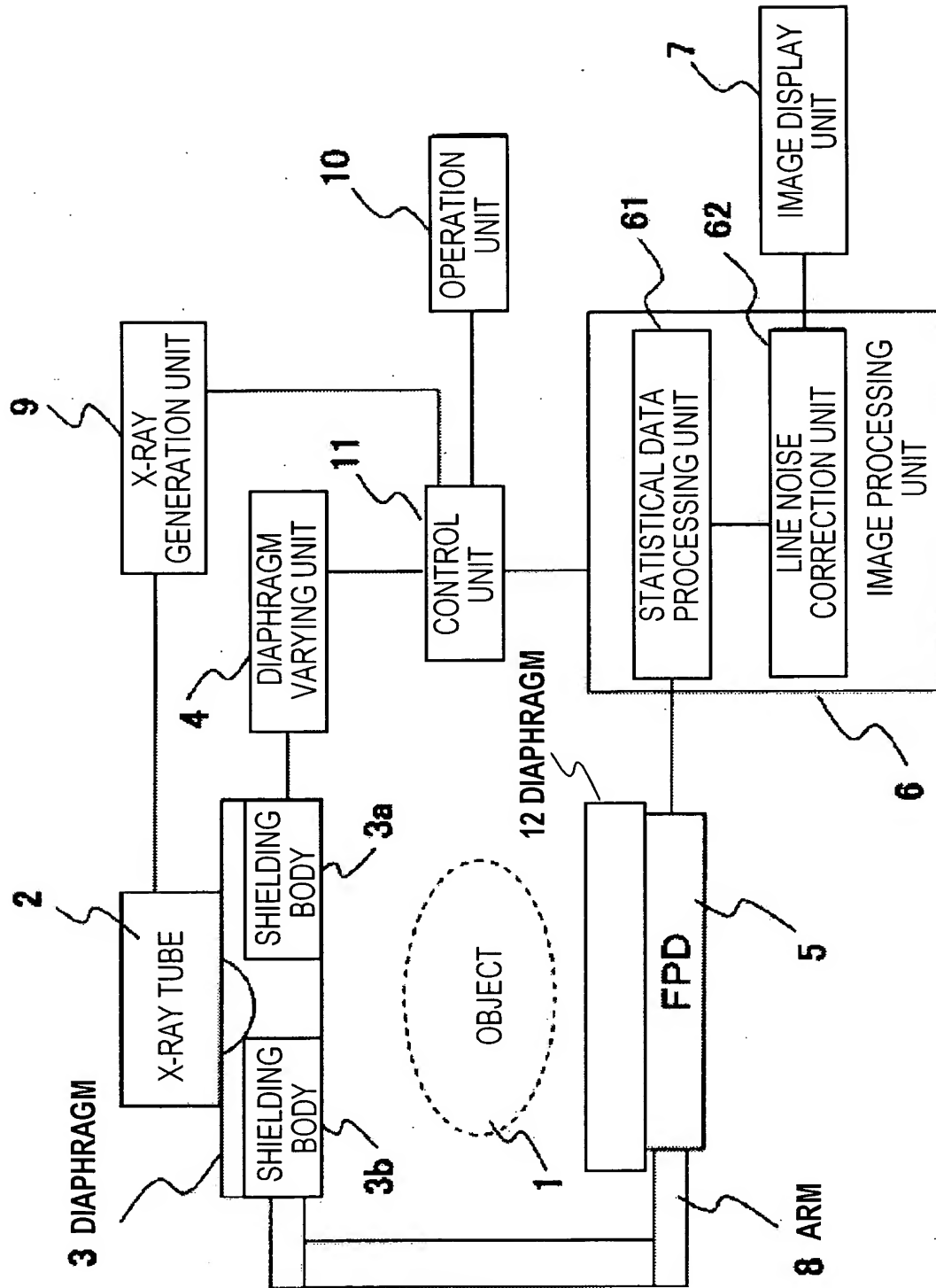


FIG. 9

